Remarks

Applicant respectfully requests consideration of this application as amended. Claims 19, 20, 25, 27-29, 35 and 36 have been amended. No claims have been cancelled. Therefore, claims 19-37 are presented for examination.

In a Final Office Action filed January 14, 2004, claims 19, 21, 25-26, 28, 30 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Klein (U.S. Patent No. 6,567,864) and Jones et al. (U.S. Patent No. 5,619,723) and further in view of Thompson et al. (U.S. Patent No. 6,341,342). Applicants submit that the present claims are patentable over any combination of Klein, Jones and Thompson.

Klein discloses a computer system in which a table created in memory includes drive description data for one or more IDE devices included in the system. The computer system includes a command intercept circuit is described, which intercepts device-identification commands and reroutes the device-identification operation to memory. The command intercept circuit includes an address decode circuit which asserts a first control signal upon decoding an address corresponding with the one or more IDE devices. A command decode circuit responds to the asserted first control signal to decode data and asserts a second control signal when the decoded data corresponds with a device-identification command. An address generator responds to the asserted second control signal to generate a memory address where the drive description data table is stored. See Klein at Abstract. However, Klein does not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive.

Jones discloses a disk drive array controller. The controller includes a microcontroller CPU with embedded ROM and RAM, a bus interface, and five connected disk drives. The ROM 104 contains the firmware for controller. A system bus coupled to the bus interface provides a communication link between the controller and a host computer, which uses the array of disk drives as secondary memory. See Jones at col. 14, ll. 18-27.

Nonetheless, Jones does not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive.

Thompson discloses an array controller that cleans buffer memory as a background task. The controller includes a transfer buffer, a memory that stores an index or table indicating free and non-zero data sectors within the transfer buffer, and processing logic that uses the transfer buffer for data transfer operations, and when otherwise idle, that scans the index table for contiguous sections of free and non-zero data sectors of the transfer buffer and that zeroes at least one of the contiguous sections. See Thompson at Abstract. Nevertheless, Thompson does not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive.

Claim 19 recites data written to and read from first and second disk drives is interleaved so that even sectors are accessed on the first disk drive and odd sectors are accessed on the second disk drive. As discussed above, Klein, Jones and Thompson do not disclose or suggest such a feature. Thus, any combination of Klein, Jones and Thompson would also fail to disclose or suggest the feature of data written to and read from first and second disk drives is interleaved so that even sectors are accessed on the first disk drive and odd sectors are accessed on the second disk drive. As a result, claim 19 is patentable over Klein and Jones in view of Thompson.

Claims 20-24 depend from claim 19 and include additional features. As a result, claims 20-24 are also patentable over the combination of Klein, Jones and Thompson.

Claim 25 recites writing to and reading from a first disk drive and a second disk drive in an interleaved form by accessing even sectors on the first drive accessing odd sectors on the second drive. Therefore, for the reasons stated above with respect to claim 19, claim 25 is also patentable over the combination of Klein, Jones and Thompson. Since claims 26 and 27 depend from claim 25 and include additional features, claims 26 and 27 are also patentable over the combination of Klein, Jones and Thompson.

Claim 28 recites data being transmitted via a system bus to be written to and read from a first disk drive and a second disk drive in an interleaved so that even sectors are accessed on the first disk drive and odd sectors are accessed on the second disk drive. Thus, for the reasons stated above with respect to claim 19, claim 28 is also patentable over the combination of Klein, Jones and Thompson. Since claims 29-34 depend from claim 28 and include additional features, claims 29-34 are also patentable over the combination of Klein, Jones and Thompson.

Claim 35 recites a striping controller, based on a standard IDE driver instruction, causes data being received to be written to and read from first and second storage devices in an interleaved form so that even sectors are accessed on the first disk drive and odd sectors are accessed on the second disk drive. Thus, for the reasons stated above with respect to claim 19, claim 35 is also patentable over the combination of Klein, Jones and Thompson. Since claims 36 and 37 depend from claim 35 and include additional features, claims 36 and 37 are also patentable over the combination of Klein, Jones and Thompson.

Claims 20, 22, 29, 31, 34 and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Klein, Jones and Thompson and further in view of Anderson (U.S. Patent No. 5,905,910). Applicant submits that the present claims are patentable over any combination of Klein, Jones, Thompson and Anderson.

Anderson discloses a system for the simultaneous operation of multiple disk drives in a computer. The system includes a first disk drive having an interrupt generating circuit to generate a first interrupt signal. The first disk drive receives a first disk transfer command from the computer, processes the first disk transfer command, and generates the first interrupt signal upon completion of the first disk data transfer command. The system also includes a second disk drive, also having an interrupt generating circuit to generate a second interrupt signal. The second disk drive receives a second disk transfer command from the computer while the first disk drive is processing the first disk transfer command such that both the first and second disk drives are simultaneously active. The second disk drive

processes the second disk transfer command and generates the second interrupt signal upon completion of the second disk data transfer command. See Anderson at col. 1 ll. 49-65.

Nevertheless, Anderson does not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. Anderson, instead, discloses conventional disk striping where multiple portions of a data file are stored alternately on two disk drives. Applicant submits, however, that alternating portions being stored on disk drives is not equivalent to interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive.

As described above, neither Klein, Jones, nor Thompson disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. Therefore, any combination of Klein, Jones, Thompson and Anderson would also not disclose or suggest such a feature. Accordingly, the present claims are patentable over any combination of Klein, Jones, Thompson and Anderson.

Claims 23, 24, 32 and 33 stand rejected under 35 U.S.C §103(a) as being unpatentable over Klein, Jones, and Thompson and further in view of Jenkins (U.S. Patent No. 4,047,157). Applicant submits that the present claims are patentable over any combination of Klein, Jones, Thompson and Jenkins.

Jenkins discloses a controller for use in a data processing system. Nonetheless, Jenkins does not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. As described above, neither Klein, Jones, nor Thompson disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. Accordingly, any combination of Klein, Jones, Thompson and Jenkins would not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. Therefore, the present claims are patentable over the combination of Klein, Jones, Thompson and Jenkins.

Claim 37 stands rejected under 35 U.S.C. 103 (a) as being unpatentable over Klein, Jones and Thompson in further view of further in view of Mizuno et al. (U.S. Patent No. 5,608,891). Applicant submits that the present claims are patentable over any combination of Klein, Jones, Thompson and Mizuno.

Mizuno discloses an array type recording system that divides a single circuit into a write circuit and a read circuit. See Mizuno at col. 4, ll. 30-35. However, Mizuno does not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. As described above, neither Klein, Jones, nor Thompson disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. Accordingly, any combination of Klein, Jones, Thompson and Mizuno would not disclose or suggest interleaving disk drives so that even sectors are accessed on a first disk drive and odd sectors are accessed on a second disk drive. Therefore, the present claims are patentable over the combination of Klein, Jones, Thompson and Mizuno.

Applicant respectfully submits that the rejections have been overcome, and that the claims are in condition for allowance. Accordingly, applicant respectfully requests the rejections be withdrawn and the claims be allowed.

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

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